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Multiple sequence alignment PS01124, HTH_ARAC_FAMILY_2.

AARP PROST/22-120
 ADA_ECOLI/85-183
 ADA_MYCTU/87-185
 ADA_SALTY/94-183
 ADAA_BACSU/102-200
 ADIY_ECOLI/149-246
 AGGR_ECOLI/164-261
 APPY_ECOLI/139-236
 ARAC_CITFR/180-279
 ARAC_ECOLI/180-279
 ARAC_ERWCH/186-284
 ARAC_SALTY/180-279
 ARAL_STRAT/202-300
 ARAL_STRLI/202-300
 CAFR_YERPE/8-107
 CELD_ECOLI/168-274
 CFAD_ECOLI/164-261
 CSVR_ECOLI/166-263
 ENVY_ECOLI/149-246
 EUTR_ECOLI/243-344
 EUTR_SALTY/243-344
 EXSA_PSEAE/171-269
 FAPR_ECOLI/154-251
 FEAR_ECOLI/199-299
 GADX_ECO27/145-242
 GADX_ECO57/145-242
 GADX_ECOLI/145-242
 GLXA_RHIME/223-321
 HRPB_RALSO/375-477
 INVF_SALTY/112-210
 LACR_STAXY/174-272
 LCRF_YERPE/167-265
 LUMQ_PHOLE/148-246
 MARA_ECOLI/14-112
 MARA_SALTY/14-112

SEILVWIEGNLTNR. LSLDDIAQHSGYTKWHLQRVFRKIVGMPPLGEYIRR I
 DKITHACRLLQEQT P. VTLEALADQVAMSPFHLHRLFKATTGMTPKAWQQAW A
 ARAMRLIADGTVDR. DGVSGLAAQLGYTIROLERLJLQAVVAGPLALARAQ M
 -----LEQET. PVTLAFLAQAVAMSPFHLHRLFKASTGMTPKGWWQQAW A
 DLITEYIDKNFTEK. LTLESLADICHGSPYHMHRTFKIKGITLVEYIQQV V
 DSVYQIIESDIHKD. WNLMSMVASCLCLSPSLLKKKLKSEN-SYSQIITTC M
 DKVRNTIEKDLSKR. WTLAIIADEFNVSEITIRKLESEYI-TENQILMQS M
 CKITGILISFNIERQ. WHLKDIADIELIYTSESILIKKRLDEGT-SFTEILRDT M
 RDACQQYISDHLLADSn. FDIASVAQHVCCLSPLSRSLSHLFRQQLGISVLSWREDQ I
 REACQQYISDHLLADSn. FDIASVAQHVCCLSPLSRSLSHLFRQQLGISVLSWREDQ I
 IEACQFITSNLAGE. LRIDEVARHVCCLSPLSRSLSHLFRQQLGISVLSWREDQ V
 RDACQQYISDHLLADSh. FDIASVAQHVCCLSPLSRSLSHLFRQQLGISVLSWREDQ I
 ASALTFLHRDPAHs. WTVAAELASAAAVSRSTLAARFKATVGQGPLEYLTRW I
 ATALTCLHRDPARS. WTVADLADTAAVSRSTLAARFKATVGQGPLEYLTRW I
 NSIIQYIEENLESKE. INIDCLVLYSGFSRRYLYQISFKEYVGMPIGTYIRVR A
 DDVPQWLKSTVERMhdkeqfseSALENMVALSAKSQEYLTRATQRYYGKTPMQIINEI I
 DKVRNVIEKDLSRK. WTLGIIADAFNVSEITIRKLESENT-NFNQILMQL M
 DKVRGVIEKDLSRK. WTLAIIAADVFNVEITIRKLESEDT-NFNQILMQS M
 DSVCRRIIQSDIQHY. WNLRIVASSLCLSPSLLKKKLKNENT-SYSQIVTEC M
 SRAREYVLENMSEP. VTVLDLCNQLHVSRRTLQNAFAHAILGIGPNAWLKRI L
 SRAREYVLENMSEP. LTVLDLCNQLHVSRRTLQNAFAHAILGIGPNAWLKRI L
 ERLQLFMEKHYNLE. WKLSDIAEEMHISEISVRKRLQECL-NFNQILLDV M
 ERIVTLLFSDLTRK. LRPEWIAGETGMSVRSLSYRMFADKGL-VVAQYIRNR L
 QKVVTLIDNNIREEi. TRVCTVINNNIAHE. WTLARIASELLMSPLKKKLRREEET-SYSQLLTET M
 GADX_ECO27/145-242
 GADX_ECO57/145-242
 GADX_ECOLI/145-242
 GLXA_RHIME/223-321
 HRPB_RALSO/375-477
 INVF_SALTY/112-210
 LACR_STAXY/174-272
 LCRF_YERPE/167-265
 LUMQ_PHOLE/148-246
 MARA_ECOLI/14-112
 MARA_SALTY/14-112

Fig. 1A



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MELR_ECOLI/194-292
 MMSR_PSEAE/201-299
 MSMR_STRMU/176-274
 MXIE_SHIFL/99-199
 MXIE_SHISO/99-199
 ORUR_PSEAE/241-338
 PCHR_PSEAE/201-296
 PERA_ECO27/168-265
 POCR_SALTY/195-293
 PQRA_PROVU/7-107
 RAFR_PEDPE/176-274
 RAMA_ENTCL/9-107
 RAMA_KLEPN/9-107
 RHAR_ECOLI/2009-307
 RHAR_SALTY/179-277
 RHAS_ECOLI/174-272
 RHAS_SALTY/174-272
 RHRA_RHIME/210-310
 RNS_ECOLI/164-261
 ROB_ECOLI/8-106
 SOXS_ECOLI/7-105
 SOXS_SALTY/7-105
 TCPN_VIBCH/172-269
 TETD_ECOLI/31-129
 THCR_RHOER/227-328
 URER_ECOLI/171-268
 URER_PROMI/171-268
 VIRF_SHIDY/161-258
 VIRF_YEREN/167-265
 VIRS_MYCTU/236-334
 XYLR_ECOLI/288-386
 XYLR_HAEIN/288-386
 XYS1_PSEPU/214-315
 XYS2_PSEPU/214-315
 XYS3_PSEPU/39-140
 XYS4_PSEPU/214-315

SQMLGFIAENYDQA. LTINDVAEHVKLNANYAMGIFQRMQLTMKQYITAM I
 DGLHAYMREHLHAR. LEILERLAAFCNLSKFHFVSRYKAITGRTPIQHFHL I
 NQVKKTIHSQYGS. LRVNDIAKKLNLSRSYLYKIFRKSTNLSIKEYIQLQV M
 YHLVILYLLRTIEKEK. eVRIKSLTEHYGVSEAYERSLCKALGAKVKEQLNTW L
 TRVRRLLLARPQDF. PDLEQAARELHTSGRSLSRRLHSSLLGT-TYQQVLLDDV K
 HAARDLLVGAHQEP. PSLLDTLASRVMGNPRLTAGFRKVFGASVFGYLQEY L
 DRVIKVIELDISKN. WKLGDVSSSMFMSDCLRKQLNKENL-TFKKIMLDI M
 KKALRYYIDAHLSSDD. LRLEDVASHVYLSPPYYFSKLFKKYQGIGENAWVNRO M
 NDILKFWLETQLQRNe. gIKIDTIANKSGYSKWHLQRIKFDFKGCTLGEYVVRKR L
 NLAVSYLQENYSTG. CTIMDLCHYLNLSRSYLYTLEFKTHANTSPQKLTLKL L
 DTIVEWIDDLNHQP. LRIEDIARHAGYSKWHLQRLFLQYKGEISLGRYRIRER L
 DTIVEWIDDLNHQP. LRIDDIARHAGYSKWHLQRLFLQYKGEISLGRYRIRER L
 DKLITRLAASLKSP. FALDKFCDEASCSERVLRQQFRQQTGMTINQYLRQV V
 DKLITALANSLECP. FALDAFCQQEQCSERVLRQQFRQQTGMTINQYLRQV I
 NLLLAWLEDHFADE. VNWDAAVADQFISLRLTMRQKQQTGLTPQRYLNRL L
 NQLMAWLEDHFAEE. VCWEAVAEQFISLRLTMRQKQQTGLTPQRYLNRL L
 ASIKMRVQEQLANGS. FSITDVAEAERITPRAIQKEFSREGT-TESTRYVLGR L
 DKVRNLLIEKDLSRK. WTLGIITADAFNASEITTIRKRLSESENT-NFNQILMQL M
 RDLLIWLLEGHLDQP. LSLDNVAAKAGYSKWHLQRMFKDVTGHAIYIRAR L
 QDLIWIIDEHIDQP. LNIDVVAKKSGYSKWLQRMFRTVTHQTLGDIYIRQ L
 OTLIEWIDEHIDQP. LNIDVVAKKSGYSKWLQRMFRTVTHQTLGDIYIRQ L
 EKISCLVKSDITRN. WRWADICGEIRTNRMILKKELESRGV-KFRELINSI I
 KDVLLIWEHNLDQS. LLLDDVANKAGYTKWFQRLFKKVTGVTLASYIRAR L
 RLAVDYLEAHAAQQP. LTVAQVARNVGSVRSLSQVGFQNSLGTPMRQLKII M
 QAITHLITQEPOQKK. WHLDDVAKALFTTPSTLRRHLLNREGV-SFRQLLLDV M
 QAITHLITQDPQRK. WHLEDVAKTLYTTPSTLRRHLSKEGV-SFCQLLLDV L
 DQIRKIVEKNIER. WRLSDISNNNLNSEIAVRKRLSESEKL-TFQQILLDI M
 ERLQKFMEENYLGQ. WKLSKFAREFGMGLTTFKELFGTVYGISPRAWISER I
 ERVVGARRLLPTGq. CSAEAIAADQLDMHPRTLQRRLAAEGL-RCHDLIERE R
 IQAMHYIRNHACKG. IKVDQVLDAVGISRSNLEKREKEEVGETIHAMIHAE L
 IQAMHYIRHRACHR. IKVGQVLDHLETSRSNLEQRFKNEMNKTIHQVIHEE I
 ERVVKFIEENLKRN. ISLERLAAELAMMSPRSLYNLFEKHAGTTPKNYIRNR L
 ERVVKFIEENLKRN. ISLERLAAELAMMSPRSLYNLFEKHAGTTPKNYIRNR L
 ERVVKFIEENVKRS. ISLEQLAELAAMSPRSLYTMFEKHTGTPMNYIRNR L
 ERVVKFIEDNLKQS. ISLERLAAELAAMSPRSLYTLEFEKHAGTTPKNYIRNR L
 ERVVKFIEENLKRN. ISLERLAAELAAMSPRSLYTLEFEKHAGTTPKNYIRNR L

Fig. 1B



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Y4FK_RHISN/318-417
 YAS2_HAEIN/194-295
 YBBB_BACSU/166-264
 YBCM_ECOLI/165-262
 YCGK_ALTCA/67-163
 YD95_MYCTU/242-343
 YDEO_ECOLI/137-233
 YDIP_ECOLI/183-281
 YEAM_ECOLI/158-258
 YELF_BACSU/192-289
 YHIW_ECOLI/139-236
 YIDL_ECOLI/197-295
 YIJO_ECOLI/172-270
 YISR_BACSU/183-281
 YKGA_ECOLI/19-117
 YKGD_ECOLI/177-278
 YMCR_STRLA/184-281
 YPDC_ECOLI/184-282
 YQHC_ECOLI/213-311
 AARP_PROST/22-120
 ADA_ECOLI/85-183
 ADA_MYCTU/87-185
 ADA_SALTY/94-183
 ADAA_BACSU/102-200
 ADIY_ECOLI/149-246
 AGGR_ECOLI/164-261
 APPY_ECOLI/139-236
 ARAC_CITER/180-279
 ARAC_ECOLI/180-279
 ARAC_ERWCH/186-284
 ARAC_SALTY/180-279
 ARAL_STRAT/202-300
 ARAL_STRLI/202-300
 CAFR_YERPE/8-107
 CELD_ECOLI/168-274
 CFAD_ECOLI/164-261
 CSVR_ECOLI/166-263
 LKAEAFMRENLTNP. VTIEDLAAARCTPRALQRMFRTYRGGSPMSVILCNY L
 KRLNTALIAILQQPqn. dWHLIEQLAELATMSRANEFIRIFQHQHIGMSPGRFILTkv L
 EKTKHYIETHADTK. ITLAQLSQMAGISAKHYSSESFKKWTGQSUTEFITKT I
 SRCYNLLSEPGTK. WTANKVARYLYISVSTLHRRLASEGv-SEQSILDDV L
 QNAMILYIENNYFND. INIDTVAFSGVSRSYLVKQFQLATNKTINNRIIEV I
 RGITALVRSKLFRDsg. 1EPFTDVAGELDMHPRTLRRRAEET-SFRALGEA S
 GKVRNIVNMKPAHP. WKLKDIDCCLYISESILLKKKQEQT-TFSQILLDA M
 KDILFYLNNNYREK. ITLEQLSKKKFRASVSYICHEFTKEYRISPINYVIQR M
 PKIRTMVEMMAKGpve. wGALGOWAGEFAMSERNLARLIVKETGLSFRQRQQLQI
 TEVKLHIKDNLNSQP. LKLTDVASHFHISGRHLSRLFAAELGVSYSEFVQNE I
 GKVERLISEDIAKRR. WYLRDIAERMYTSESЛИKKKLQDENT-CESKILLAS M
 EKLIALTHASLQQR. WSVADMAATIPCSEAWLRRRLFLRYTGKTPKEYYILDA L
 EAIRDYIDERYASA. LTRESVAQAFYISPNEYLSHLFQKRTGAIGFNEYLNHT L
 WEAARYLQEHYKEK. TTIKDLSSLALHYHQDYYVSRCMQQVQLGVTPAQYTNRV M
 QLLEWIECNLEHP. ISIEDIAQKSGYSRRNIQLLFRNEMHVPLGEYIRKR L
 PRLGAVIQQMLEMPgh. awTVESSLASIAHMSRASFAQLFRDVSGBTPLAVLTKL L
 DPLLRAVVVSLEAG. RSVTATADSVGLGARQLHRRSLAAFGYGPKTLARV L
 HSICNWVQDNYAQP. LTRESVAQFFNITPNHLSKLFAQHGTMRFIEYVRWV M
 SRLKRIENKYTN. LSVEQLAAEANMSVSAFHNFKSVTSTSPLQYLNKY L
 CEAAKELOTTNL. QVIDIALKYQ DSQQS AKR KAYLGIS SLYRLS
 RRLRESLAKGE-.... SVTTSILNA PDSSSSYRKADETLGMTAKQFRHG
 QTARVLIETTNL. PFGDVFAFAA SSIRO NDTVRILACDGT TALRAR
 RRLREALAKGE-.... PITAAIYRA PDSSSSYRHADQTLGMTAKQFRKG
 HAAKKYLIQTNK. AIGDIAICV IANAPY ITL KKKTGQT ARFRQM
 RYAVNELLMDGK. NISQVSSQSC NSTSY ISV KDFYGMT LHYVSQ
 SKAALLLDDNSY. QISQISNMI SSTSY IRL VKHFGIT KQFLTY
 RYAKKLITNSY. SINVVAQKC NSTSY ICA KDYYGVT SHYEEK
 SQAKLLLSTTRM. PIATVGRNV DDQLY SRV KKCTGAS SEFRAG
 SQAKLLLSTTRM. PIATVGRNV DDQLY SRV KKCTGAS SEFRAG
 IRAKLILLQTTQE. SIANIGRVV DDQLY SRV RKRVGV SDFRRR
 SQAKLLLSTTRM. PIATVGRNV DDQLY SRV KKCTGAS SEFRAG
 ELTARQLREGSA. PLAAIAHSV GSESA SVA KRVLGMM GDYRKH
 ELAARQLREGNA. TLASIAHSV GSESA SVA KRVLGMP GDYRKH
 SRAAALLRLTRL. TIEISAKLF DSQQT TRE KKIEGYT RQYRMI
 NFAKKQOLEMNTN. SVTDIAFEA SSPSL IKT KKLTSFT KSYRKK
 SKAALLLENSY. QISQISNMI ISSASY IRV NKHYGVT KQFFTY
 SKAALLLENSY. QISQISNMI ISSASY IRV NKHFGVTRSSFLII

Fig. 1C



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ENVY_ECOLI/149-246
 EUTR_ECOLI/243-344
 EUTR_SALTY/243-344
 EXSA_PSEAE/171-269
 FAPR_ECOLI/154-251
 FEAR_ECOLI/199-299
 GADX_ECO27/145-242
 GADX_ECO57/145-242
 GADX_ECOLI/145-242
 GLXA_RHIME/223-321
 HRPB_RALSO/375-477
 INVF_SALTY/112-210
 LACR_STAXY/174-272
 LCRF_YERPE/167-265
 LUMQ_PHOLE/148-246
 MARA_ECOLI/14-112
 MARA_SALTY/14-112
 MELR_ECOLI/194-292
 MMSR_PSEAE/201-299
 MSMR_STRMU/176-274
 MXIE_SHIFL/99-199
 MXIE_SHISO/99-199
 ORUR_PSEAE/241-338
 PCHR_PSEAE/201-296
 PERA_ECO27/168-265
 POCR_SALTY/195-293
 PQRA_PROVU/7-107
 RAER_PEDPE/176-274
 RAMA_ENTCL/9-107
 RAMA_KLEPN/9-107
 RHAR_ECOLI/209-307
 RHAR_SALTY/179-277
 RHAS_ECOLI/174-272
 RHAS_SALTY/174-272
 RHRA_RHIME/210-310
 RNS_ECOLI/164-261

RYAVQMLIMDNK...NITQVAMQLC
 NAVRRELISPWSqsmTVKDAAMQW
 NAVRRELISPWSqsaTVKDAAMQW
 LYAHQLLNNSDM...SIVDIAMEA
 NQAAKFIIRSDH...QIGMIASLV
 DFCADAIRHAADD.eKLAGIGEHW
 QRALQOLIVIYGV...SIKRVAVSC
 QRALQOLIVIHF...SIKRVAVSC
 QRALQOLIVIHF...SIKRVAVSC
 RHARRLQQSPL...SIPEIAYAT
 EGIRSDLDSERNpsNIIDTASRW
 AQSLLNSVEGHE...NITQLAVNH
 YHASQOLLIHTST...LISDISRQV
 LYAHQLLLINGKM...SIVDIAMEA
 DLAQKOLIAERQK...PLSQVAQLC
 TEIAQKLKESNE...PILYLAERY
 TEIAQKLKESNE...PILYLAERY
 NHVRALLSDTDK...SILDIALTA
 EYACQQLDSSDQ...SVARVGQAV
 KRSQYLLENPKL...SIAEISNSV
 VNGLLDVFHLHNQ...TITSAAMNN
 VNGLLDVFHLHNQ...TITSAAMNN
 RLALQYLTQ...PLYEIALLL
 REAHRMLCDEA...NVSTVAYRV
 KHASLFLRTTDK...NIDEISCLV
 VSARELLCHSDW...SIASIARNL
 LEAKSLSQEKDM...SILDIALMY
 EDAKQRLSTSN...SVQSIANMV
 LLAARDLRESDDE...RVYEICLRY
 LLAARDLRTDQ...RVYDICLKY
 CHAQYLLQHSRL...LISDISTEC
 CHAQYLLQHSPL...MISEISMQC
 MKARHLLRHSEA...SVTDIAYRC
 IKARHLLRHSDH...SVTEIAYRC
 SLAKSLILAEGea.tSISQIAYNV
 SKAALLLENSY...QISQISNMI
 SSTSY ISV KAFYGLT NYLAK
 WHLGQ ATD QQLFSEK SLTLHQ
 WHLGQ ATD QQLFAEK SLTLHQ
 SSQSY TQS RRRFGCT SRSRQG
 TSVSY IKT KEYYGV KKFEIG
 SDQSH STV KQRFQMT GEYRRK
 HSVSY IYV RNYYGMT TEYQER
 HSVSY IYV RNYYGMT TEYQER
 SSPAH SNA KRLFSQT GSLRRR
 SSPSH SSEIKELIGVS RKLNSI
 KDPLL SKN TKHFEISASEYRH
 SSQSY TQS RRRFGCT SQARLT
 SSQSS SQA RRLYGMS TRYQFF
 ESOQTLTRT KNYFDRV HKYRMT
 ESOQTLTRT KNYFDRV HKYRIT
 RSSSR YST GKYVGMS QQYRKL
 DDSYY SRL SKVMGLS SAYRQR
 SDSLA SKA KNYFGKS SKFRKE
 RSTSH SNEIKTRLGFSARELSNI
 ASTSH SNEIKTRLGFSARELSNI
 NDSSN RRA RKWTGKL SDYREA
 S-PAH SIA RKRYGIS SEIR--
 NSTSY IKV KEYYNTT KKYNGV
 SQTSY CKV RQTYQVT QAYRQQ
 SSQAT TRI KKHFNNT AKFREN
 KDSFT SKA KRYSGAS SYYRKS
 ESOQQT TRI TRTFHQ GAYRKE
 DSQQT TRV TRTENQP GAYRKE
 EDSNY SVV TRETGMT SQWRHL
 EDSNY SVV TRETGMT SQWRHL
 SDSNH STL RREFNWS RDIRQG
 GDSNH STL RREFNWS RDIRQG
 NDLSY NRT RSRYGVRS DLLRRL
 SKAALLLENSY IRI NKHYGV KQFFTY

Fig. 1D



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ROB_ECOLI/8-106
 SOXS_ECOLI/7-105
 SOXS_SALTY/7-105
 TCPN_VIBCH/172-269
 TETD_ECOLI/31-129
 THCR_RHOER/227-328
 URER_ECOLI/171-268
 URER_PROMI/171-268
 VIRF_SHIDY/161-258
 VIRF_YEREN/167-265
 VIRS_MYCTU/236-334
 XYLR_ECOLI/288-386
 XYLR_HAEIN/288-386
 XYL_S_PSEPU/214-315
 XYS1_PSEPU/214-315
 XYS2_PSEPU/39-140
 XYS3_PSEPU/214-315
 XYS4_PSEPU/214-315
 Y4FK_RHISN/318-417
 YA52_HAEIN/194-295
 YBBB_BACSU/166-264
 YBCM_ECOLI/165-262
 YCGK_ALTCA/67-163
 YD95_MYCTU/242-343
 YDEO_ECOLI/137-233
 YDIP_ECOLI/183-281
 YEAM_ECOLI/158-258
 YFIF_BACSU/192-289
 YHIW_ECOLI/139-236
 YIDL_ECOLI/197-295
 YIJO_ECOLI/172-270
 YISR_BACSU/183-281
 YKGA_ECOLI/19-117
 YKGD_ECOLI/177-278
 YMCR_STRLA/184-281
 YPDC_ECOLI/184-282
 YQHC_ECOLI/213-311
 SKSVALRLTAR...PILDIALQYR DSQQT TRA KKQFAQT ALYRRS
 LLAavelrtter...PIFDIAMDL VSQQT SRV RQFDRT SDYRHR
 SYSIslMKTGEE...KIKQIAYQS ASVSY STV KSTMNV. SEYLFM
 TKAavelrltKK...TILEIALKYQ DSQQS TRR KYIEFKVT SYYRRN
 QKARKDLLRADPaseGVTEIAQRW LHVGR AGE KQTFGVs SEDLRT
 GMALNylTFSNY...SVFOISHRC GSNAY CDV KRKYNM SQFRLQ
 PIALNylTFSNY...SVFOISHRC GSNAY CDA KRKYGM SQFRTQ
 HAAKLLNSQS...YINDVSRLI ISSPSY IRK NEYYGIT KKFYLY
 LYAHQllLNGKM...SIVDIAMEA SSQSY TQS RRRFGCT SQARLT
 AQAAARYLAQPG...YLSQIAVLL SEQSALNRSCRWFEGMT RQYRAY
 EKARSLLISTL...SINEISOMC PSLQY YSV KEFRLN
 SRAKNLLQQTDI...SIKEITEIC PSIQY YSV KEFRMT KEFRDV
 ESIrACLNDPSAnvrSITeIALDY LHLGR AEN RSAFGEL SDTLRLQ
 ESIrACLNSNPTTnirSITeVALIDY LHLGR AEN RSAFGEL SDTLRLQ
 ECVRARLSDPNAnvrSVTEmALDY FHTGR AEN RSAFGEL SDTLRLR
 ECIRARLSDPNAnvrSVTEmALDY FHTGR AEN RSAFGEL SDTLRLR
 AAAHGAIKAGRag..SITELALNlQ SNPGR SVL KSAYGLS SSALRF
 QSAAFLLKQSQ...SVLTAILEV QSEAH CKV KNYQLS SQYRKS
 TKAKRlMAKSNC...KLKEIAHQT QDEFY SRI KKYTGCS TSYMKK
 NNALSAIQTtVK...PISEIAREN KCPSR TER HNRFNIT REIRKA
 EQAKKVLKK---SVTETAYEV NNSNY ATv KKRTNYT KQFKRT
 TVAVDlLlRNvGL...TVQQVSTRl TEVST SHA KRWYGVa SEYSRR
 QHAKNlIRVEG...SVNKIAEQC ASTSY IYA RKHFGNS KRVSK
 TEAKWslLNTel...SQAEISWRV ENVDH AKL LRHVGCs SDYRRQ
 IMALQGLVKGD...TVQKVTAHL DSTTA ITM KKGLGQT GRYIAR
 NKAELLKSTNL...SIKEIAEEI S-VHY TRV SAKIGSS GLFRSL
 SMARRLLELRQI...PLHTIAEKC SSTSv INT RQYYGVT HQFAQH
 DLASLLKQQGN...SVGEVADTLN FDSEH SKA KHKEFGYA SAVLKN
 EHAKTLLKGYDL...KVKEVAHAC VDSNY CRL RKNTERS SEYRRQ
 TEAKRllSSTD...KMGVIAETV MEDPTY SKL KQIEGIS IEYRKI
 CRAAILVRLTAK...SMLDIALSLH DSQQS SRE KKLFGCS REYRHR
 QIAAQMFsRETL...PVVVIAsV ASESS HKA VREFGCT GEYRER
 ORALRLARAGV...PFAETATLA ADQAHLLARDVREMAGSSlSElVER
 AKARMILQKYHL...SIHEVAQRC PDSDY CRV RQFGLT GEYSAR
 HKARMMIIHGM...KASAAAMRV ESASQ SRE KRYFGVT GEDAAR

Fig. 1E



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MarA protein (BAA15221)

MTMSRRNTDAIHSILDWIEDNLESPLSLEKVSERSGYSKWHLQRMFKKETGHSLG
QYIRSRKMTEIAQKLKESNEPILYLAERYGFESQQTLTRTFKNYFDVPPHKYRMTNM
QGESRFLHPLNHYNS

Rob protein (AAC73403)

MRYDKELTENEMIRQKILQQLLEWIECNLEHPISIEDIAQKSGYSRRNIQLLFRNFMHV
PLGEYIRKRL
CRAAILVRLTAKSMLDIALSLHFDSQQSFSREFKKLFGCSPREYRHRDYWDLANIFPS
FLIRQQQKTECR
LINFPETPIFGNSFKYDIEVSNKSPDEEVKLRRHHLARCMKNFKTDIYFVSTFEPSTKS
VDLLTVETFAG TVCEYADMPKEWTTTRGLYDPTHVIWTQA

SoxS protein (P22539)

MSHQKIIQDLIAWIDEHIDQPLNIDVVAKKSGYSKWYLQRMFRVTQHQLGDYIRQR
RLLLAAVELRTTE RPIFDIAMDLGYVSQQTFSRVFRRQFDRTPSDYRHRL

Fig. 2



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1 2 3 4 5 6

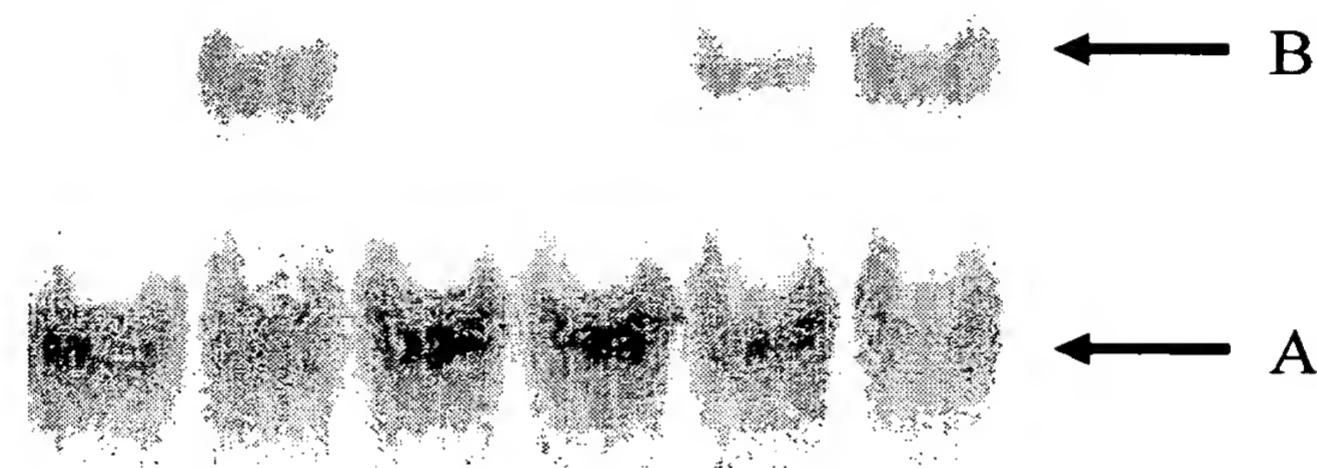
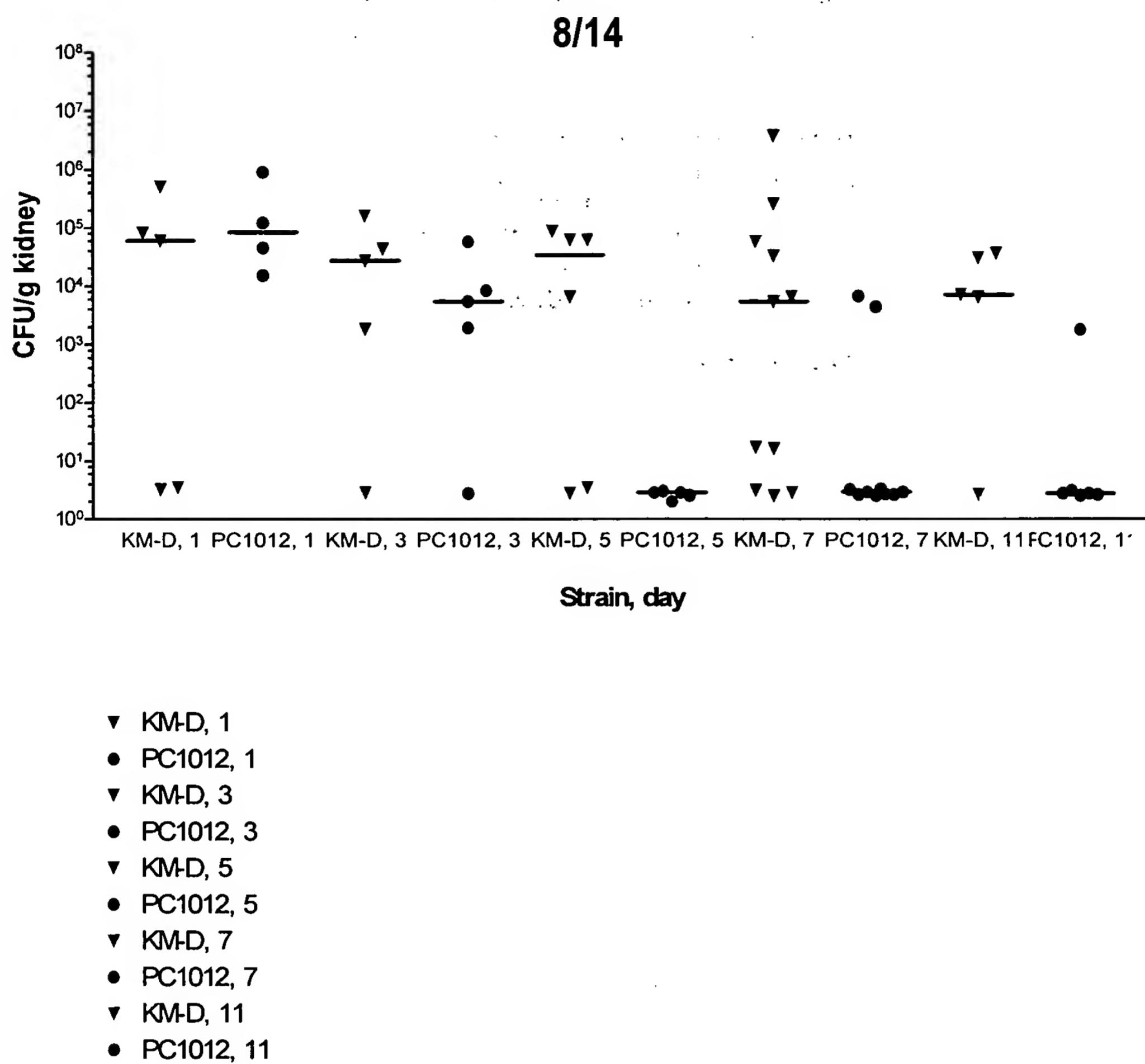


Fig. 3

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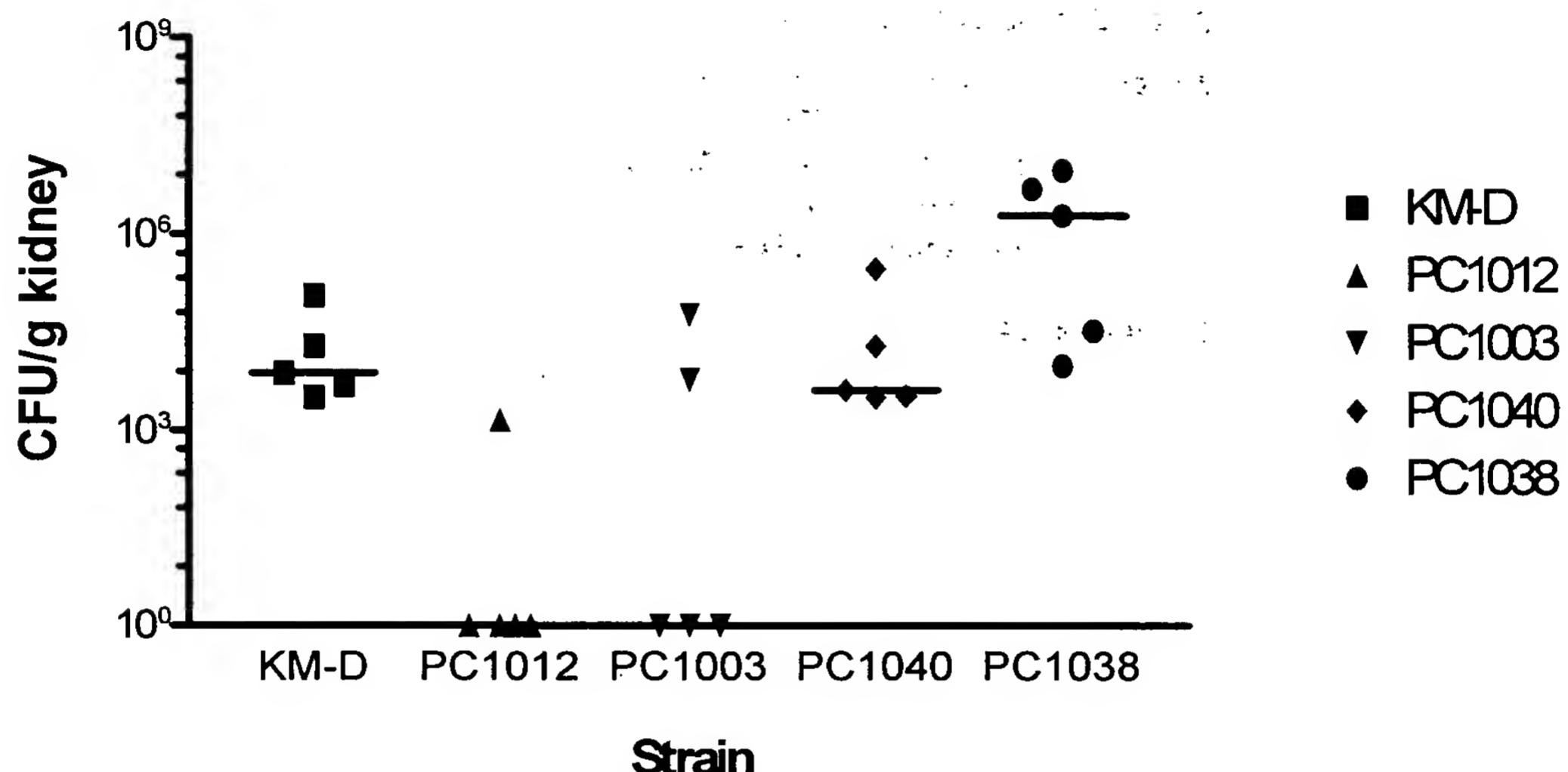


Strains compared	Student's <i>t</i> -test values (p)
KMD vs. PC1012, day 1	0.249
KMD vs. PC1012, day 3	0.752
KMD vs. PC1012, day 5	0.018
KMD vs. PC1012, day 7	0.038
KMD vs. PC1012, day 11	0.017

Fig. 4



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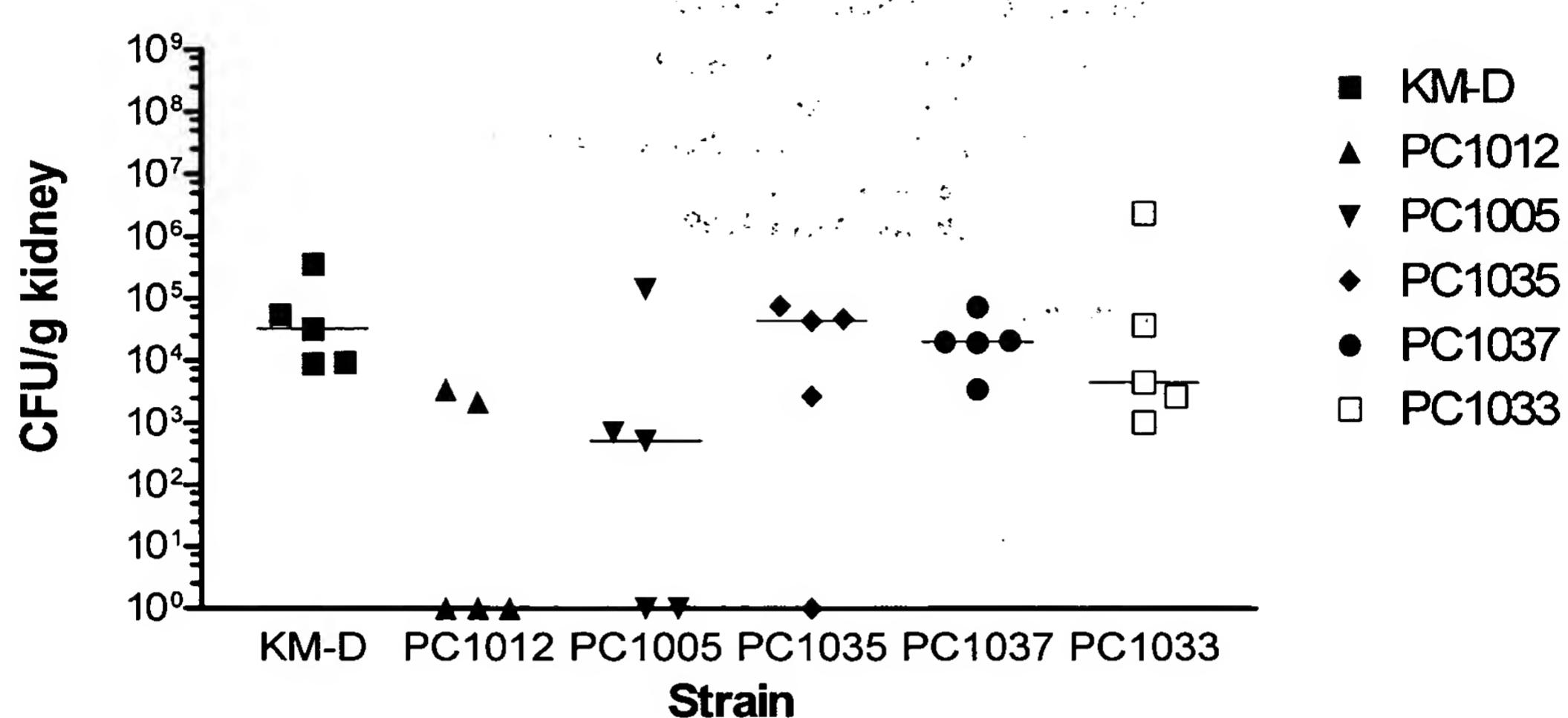


Strains compared	Student's <i>t</i> -test values (p)
KMD vs. PC1012	0.001
KMD vs. PC1003	0.061
KMD vs. PC1040	0.990
KMD vs. PC1038	0.042

Fig. 5



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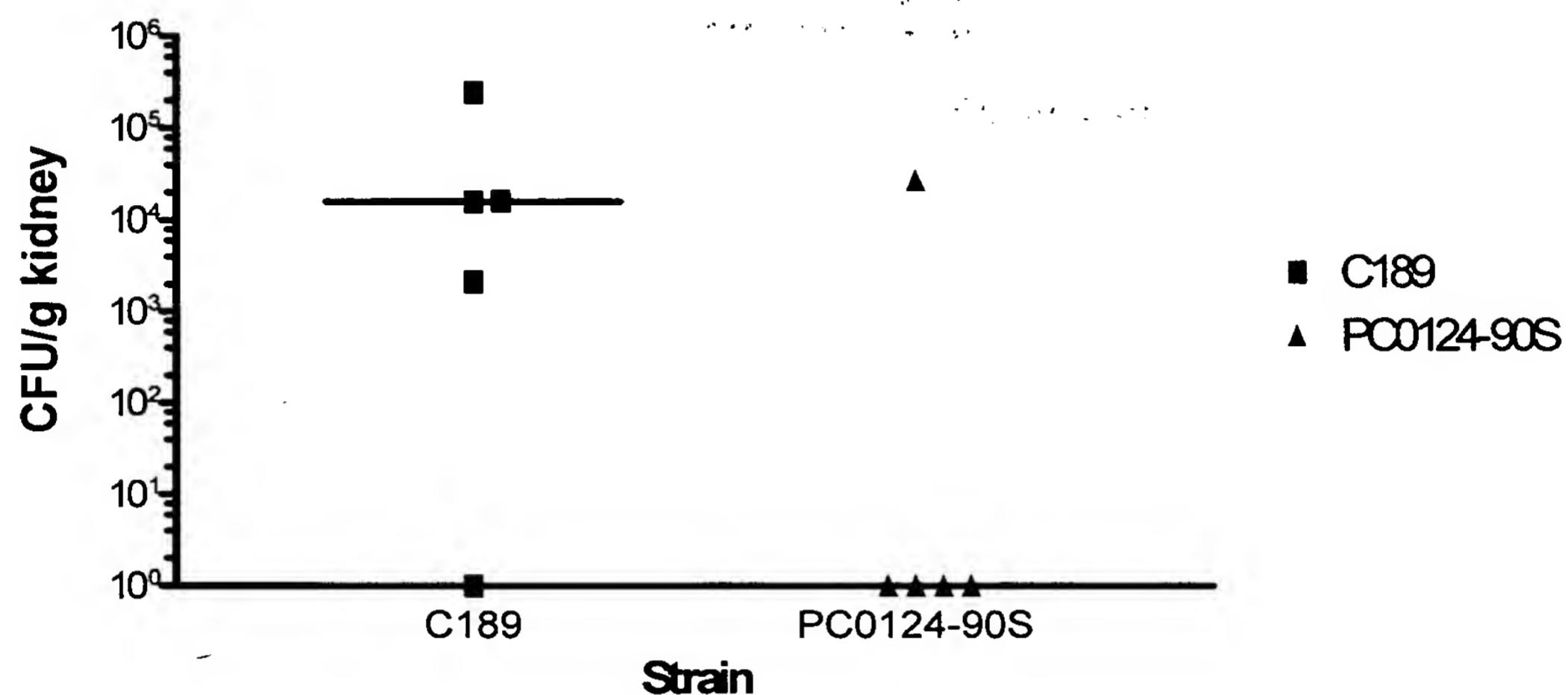


Strains compared	Student's <i>t</i> -test values (p)
KMD vs. PC1012	0.007
KMD vs. PC1005	0.002
KMD vs. PC1035	0.318
KMD vs. PC1037	0.455
KMD vs. PC1033	0.477

Fig. 6



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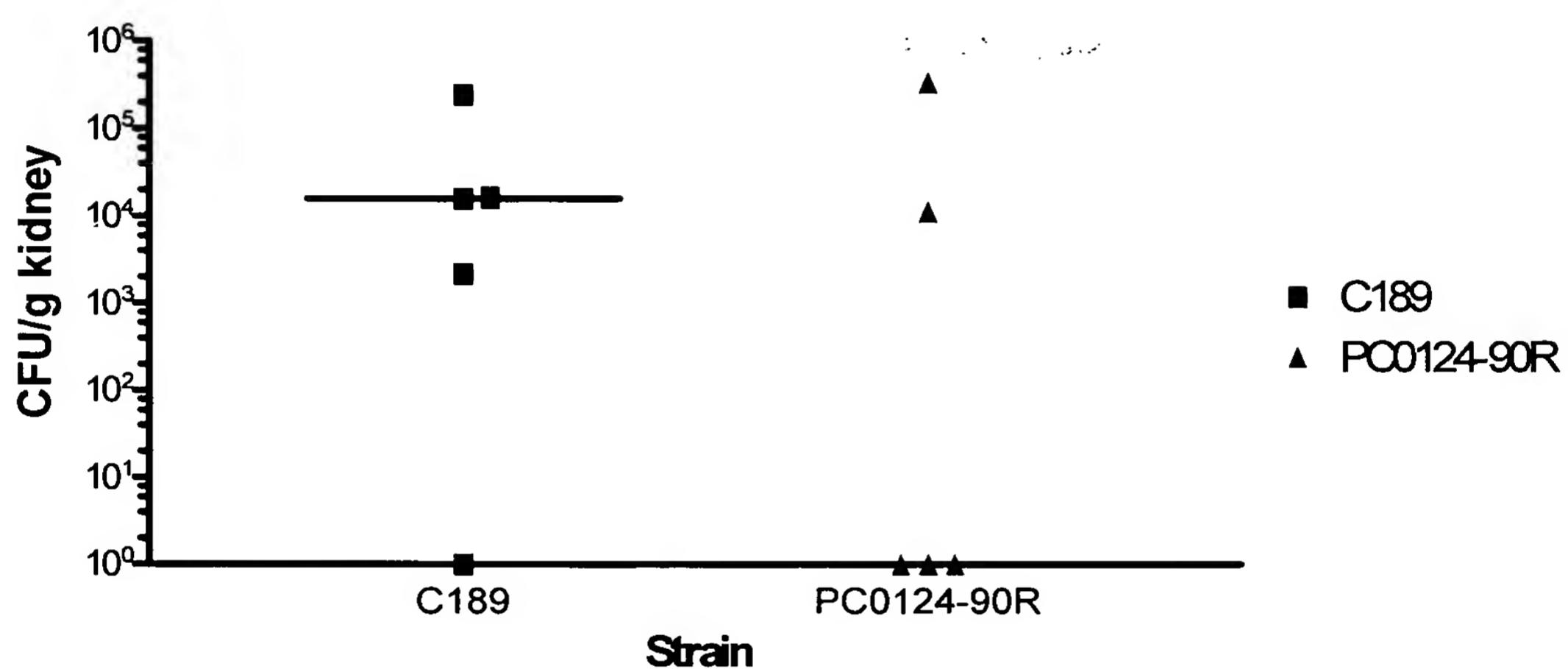


Strain	Student's t-test
C189 vs. PC0124-90S	0.082

Fig. 7



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Strain	Student's t-test
C189 vs. PC0124-90R	0.389

Fig. 8



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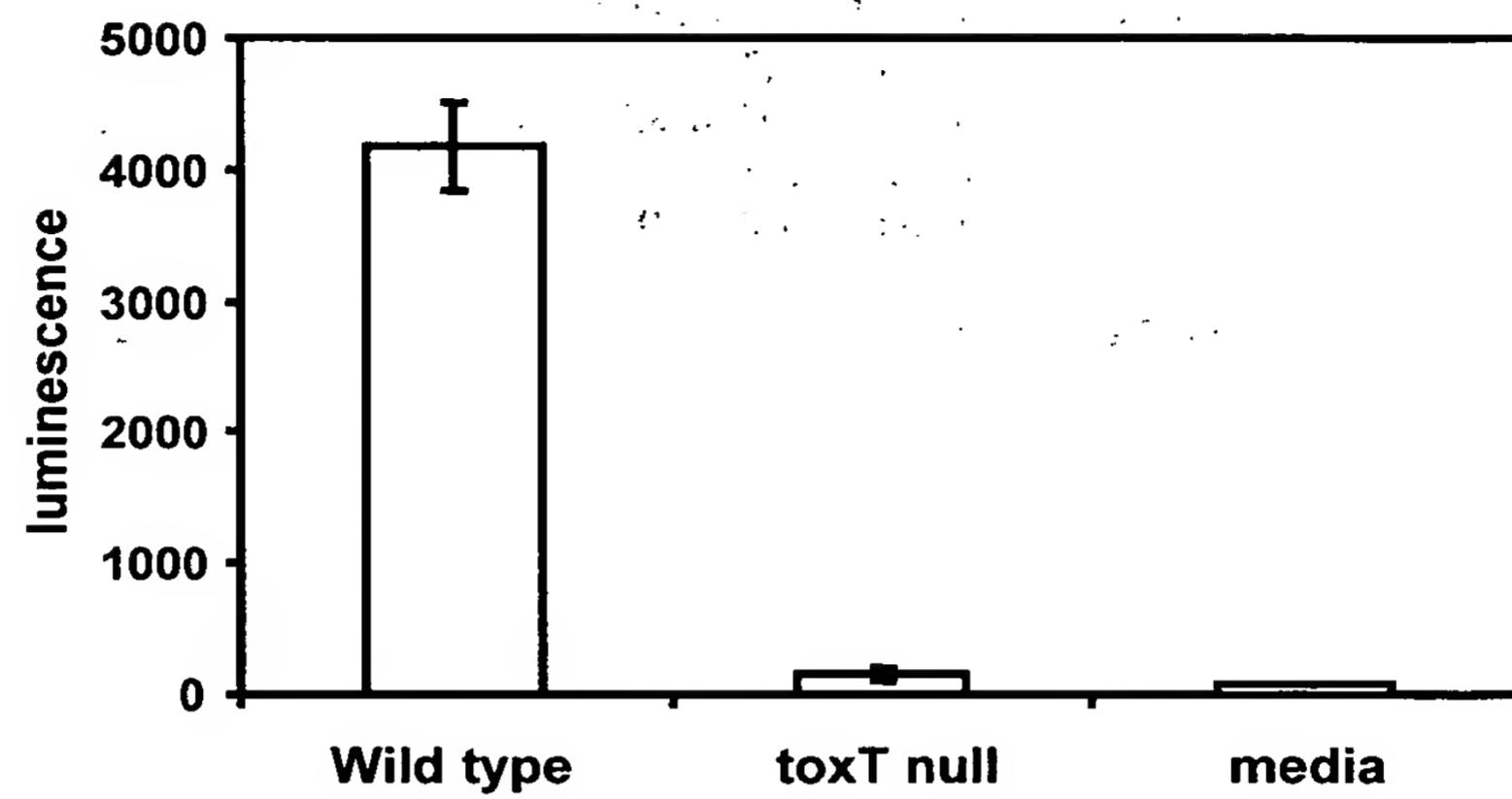


Fig. 9A

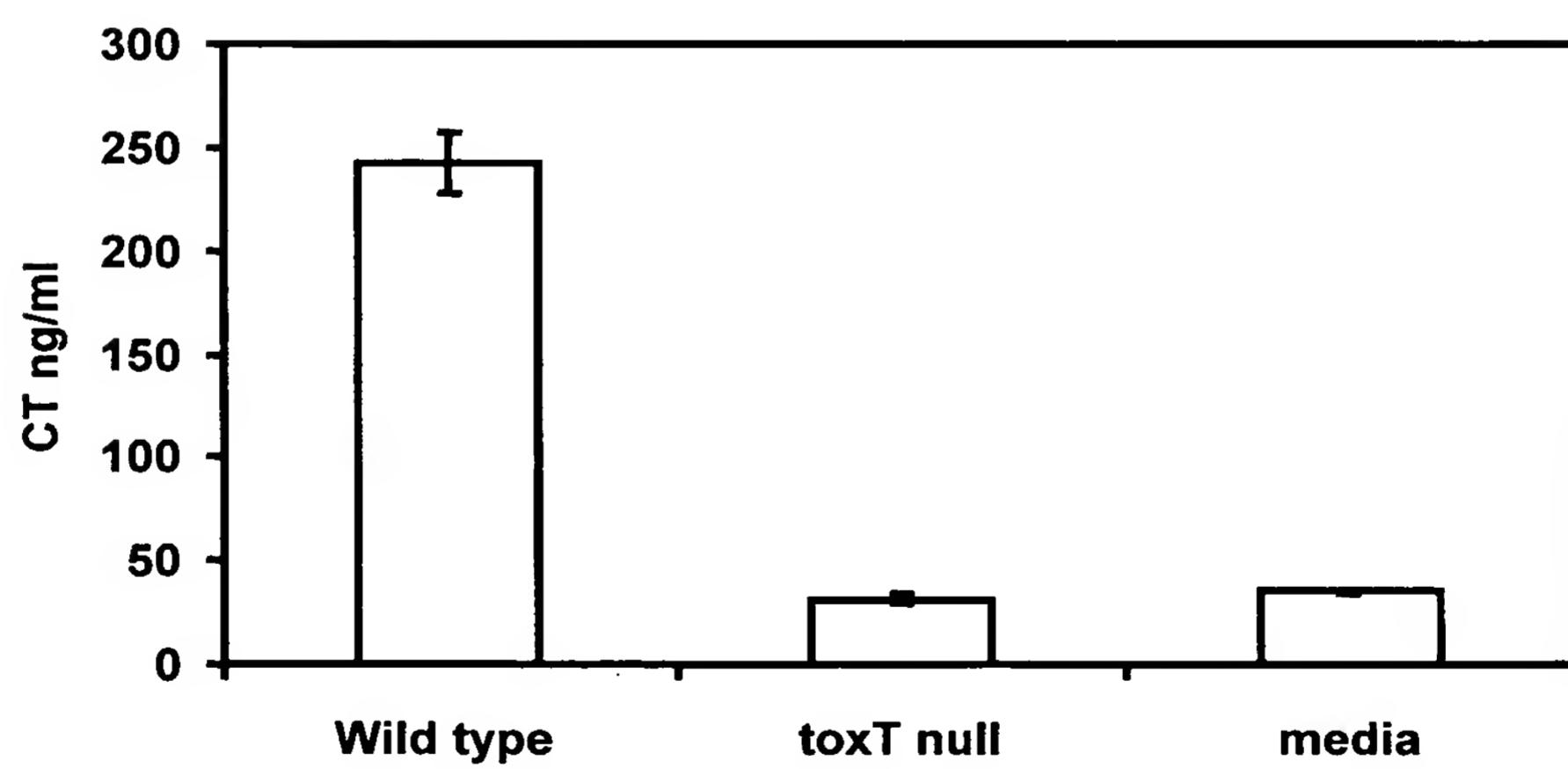


Fig. 9B



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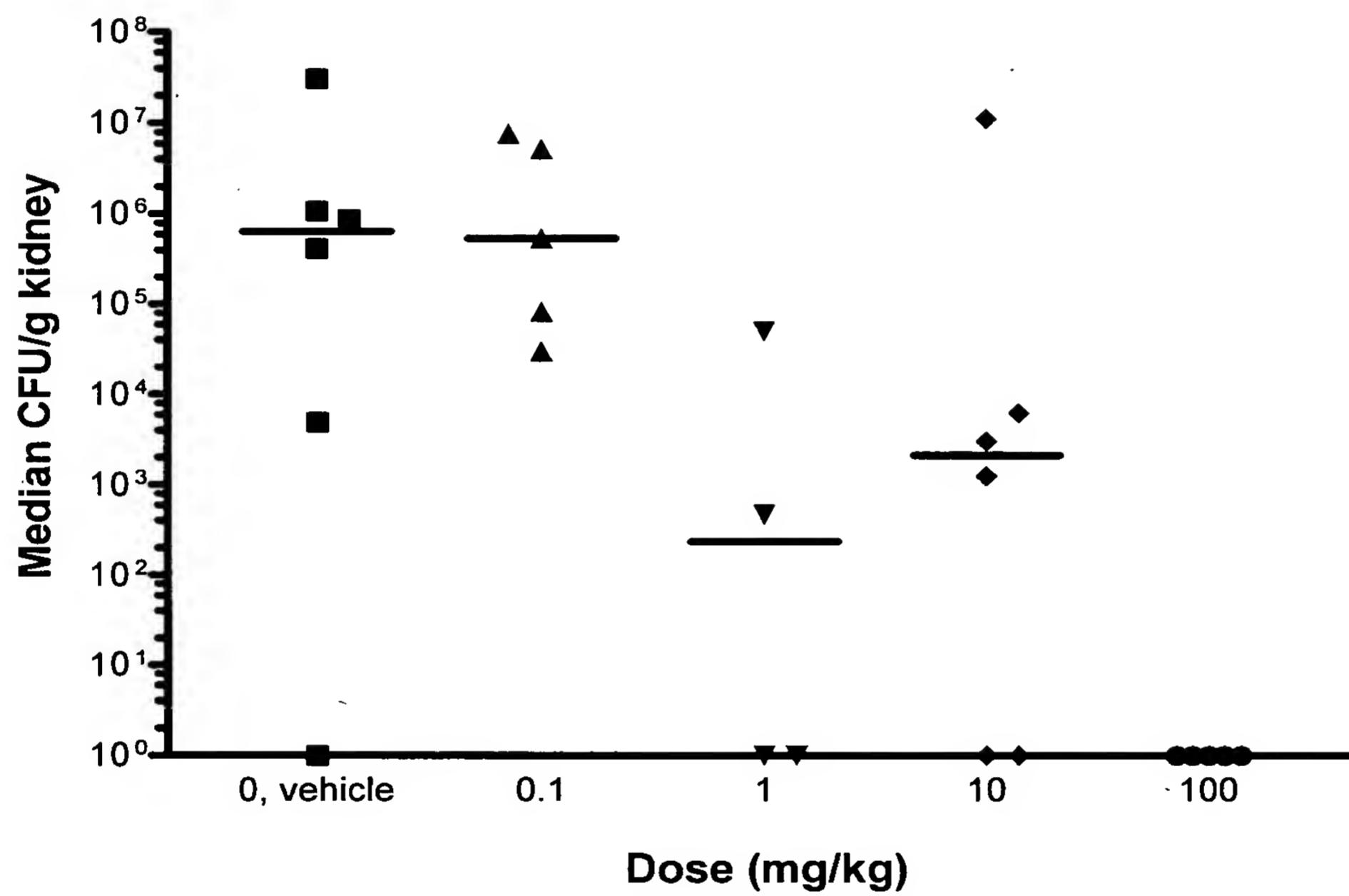


Fig. 10